

ABSTRACT OF THE DISCLOSURE

An endoscope system which can obtain a tomographic image in accordance with optical coherence tomography (OCT). An OCT
5 section of the endoscope system comprises a first optical fiber, a second optical fiber, an optical coupler, a super-luminescent diode (SLD), a photodetector, and a reference mirror. The first optical fiber is opposed to the SLD at its proximal end. The second optical fiber is opposed to the photodetector at its
10 proximal end. The optical coupler establishes optical connection between the optical fibers. The reference mirror is arranged movable in front of the distal end of the second optical fiber. The distal end of the first optical fiber is introduced to an OCT scanning unit at a tip of an endoscope.
15 This OCT scanning unit includes a polygon mirror having a plurality of reflecting surfaces, which are tilted in different angles from each other. The OCT scanning unit forms a plurality of scanning lines aligned in parallel over a subject at regular intervals. Here, the OCT scanning unit irradiates the subject
20 with light emitted from the distal end of the first optical fiber, and introduces the light reflected by the object to the first optical fiber.

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(図1)

- 3 MONITOR
- 5 4 INPUT DEVICE
- 211 WHITE LIGHT SOURCE
- 212 EXCITATION LIGHT SOURCE
- 216 ROTARY FILTER CONTROL MECHANISM
- 222 TIMING GENERATOR
- 10 223 FIRST-STAGE SIGNAL PROCESSING CIRCUIT
- 224 RGB MEMORY
- 225 PICTURE SIGNAL PROCESSING CIRCUIT
- 226 VIDEO CAPTURE
- 227 OCT FIRST-STAGE SIGNAL PROCESSING CIRCUIT
- 15 228 OCT MEMORY
- 229 OCT PICTURE SIGNAL PROCESSING CIRCUIT
- 234 MIRROR DRIVING MECHANISM
- 235 SCAN CONTROL CIRCUIT

20 (図2)

- 1 ENDOSCOPE
- 232 PHOTODETECTOR